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Students' Perception of the Pharmacists' Patient Care Process (PPCP) for Hypertension-focused Curricular Activities

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Background

Pharmacists' Patient Care Process (PPCP)

- Released by the Joint Commission of Pharmacy Practitioners in 2014
- Composed of five principles of evidence-based practice:
  Collect → Assess → Plan → Implement → Follow-up (Monitor and Evaluate)[1]
- Encourages a consistent approach to delivering patient care in any pharmacy practice setting

Incorporation of the PPCP

- 2016 Accreditation Council for Pharmacy Education (ACPE) Accreditation Standards: Standard 10.8 states PharmD programs should demonstrate how "the curriculum prepares students to provide patient-centered collaborative care as described in the Pharmacists' Patient Care Process model endorsed by the Joint Commission of Pharmacy Practitioner"[2]
- Centers for Disease Control and Prevention: Resource guide for pharmacists in using the PPCP specifically to manage high blood pressure[3]
- Comparing students' perception on the areas achieved in the PPCP to those intended by the faculty may help pharmacy schools determine areas of improvement for utilization of the PPCP in their respective curricula

Objective

Compare faculty expectations to students' perceptions of the PPCP in a blood pressure objective structured clinical examination (OSCE) by evaluating students' ability to identify the five principles of the model.

Methodology

Third professional year student pharmacists in the Self Care and Home Care course participated in the following course requirements:

- A lecture on blood pressure screening in relation to the PPCP
- An OSCE incorporating all five principles of the PPCP to evaluate students' blood pressure technique and counseling skills

Student pharmacists voluntarily completed three Institutional Review Board-approved paper surveys related to the PPCP for blood pressure screening:

- Pre-lecture quiz assessing baseline PPCP knowledge and demographics
- Post-lecture quiz assessing students' PPCP knowledge
- Post-OSCE PPCP utilization survey

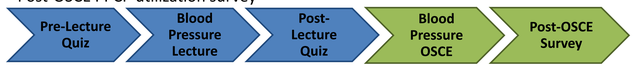


Figure 1. Chronological order of methods

Endpoints:

- Primary: The difference in students' perceptions of the PPCP elements completed compared to faculty's intended expectations of the OSCE
- Secondary : The change in students' baseline knowledge of the PPCP

Results

Pre- and Post-Lecture Quizzes	
Response Rate	82.1% (170/207)

Table 1. Demographics (n=170)	
Age (years)	
20-24	84.7%
25-29	10.6%
30-34	2.4%
35-39	0.6%
≥40	1.2%
Sex	
Male	25.9%
Female	73.5%
Ethnicity	
Asian	68.8%
Black/African American	2.9%
Hispanic/Latino	1.2%
Pacific Islander / Native American	1.8%
White/Caucasian	25.3%

Figure 2. Comparison of Pre-Lecture and Post-Lecture Scores

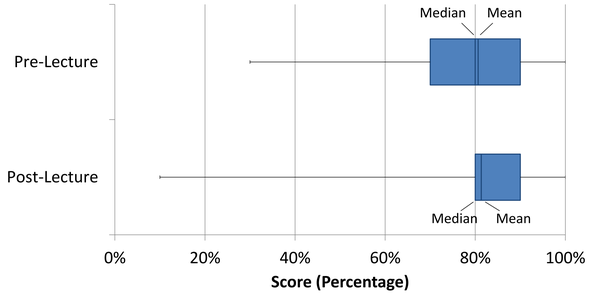
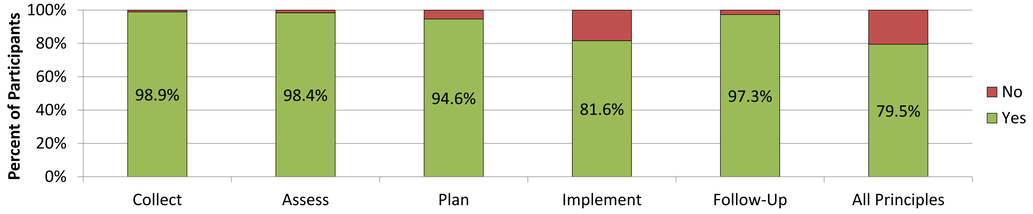


Table 2. Assessment Score Measures of Central Tendency			
	Median	Mode	Average
Pre-Lecture	80%	90%	80.6%
Post-Lecture	80%	90%	81.4%

Post-OSCE Survey	
Response Rate	89.4% (185/207)

Figure 3. Student Identification of PPCP Elements



Discussion

Pre- and Post-Lecture Assessments: Evaluated students' knowledge of the PPCP

- Minimum score was lower, but the median and mode scores the same and average score higher for the post-lecture assessment in comparison to those of the pre-lecture assessment (10%, 80%, 90%, and 81.4% versus 30%, 80%, 90%, and 80.6%, respectively).
- Less variation in scores for the post-lecture assessment: 75% of students scored at least 80%, whereas 75% of students scored at least 70% in the pre-lecture assessment.
- Conclusion: Average scores were not significantly different, indicating a potential need to revise lecture material in order to improve student learning.

Blood Pressure Screening OSCE: Incorporated all five components of the PPCP

- Although the faculty expected students to fulfill all five principles, 20.5% (38/185) of students did not indicate that the OSCE identified all areas.
- Collect was the most commonly identified component, while implement was the least, 98.4% (183/185) and 81.6% (151/185), respectively.
- Conclusion: Implementing patient-centered care should be emphasized when educating students on the PPCP.

Limitations of the Study

- Knowledge-based assessments did not validate or test to confirm the clarity of the questions: In both the pre- and post-lecture assessments, the majority of students identified the principle of assess for a scenario that was intended to represent follow-up, potentially due to the phrasing of the question.
- Students completed the post-OSCE survey after exiting the assessment room rather than during the exam: Some students may not have remembered performing certain components of the PPCP while completing the survey in hindsight.
- Performance is not correlated with a student's ability to identify components: A student may have identified that monitoring was present in the OSCE but did not actually complete the portion of the exam that involved follow-up.

Implications

This study shows that students' and faculty members' understanding of the PPCP differ. Obtaining student feedback and reinforcing application could improve future activities utilizing the PPCP. Other members of the pharmacy community are encouraged to apply this information in evaluating their respective colleges of pharmacies' utilization of the PPCP.

References

1. Joint Commission of Pharmacy Practitioners. Pharmacists' Patient Care Process. 2014 May. p. 1-3.
2. Accreditation Council for Pharmacy Education. Accreditation Standards and Key Elements for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree ("Standards 2016"). Chicago: Accreditation Council for Pharmacy Education; 2015 Feb. 6 p.
3. Centers for Disease Control and Prevention. Using the Pharmacists' Patient Care Process to Manage High Blood Pressure: A Resource Guide for Pharmacists. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services; 2016.